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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/896,118	07/02/2001	Katsunori Hanakawa	740630-38	5087

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EXAMINER

WILKINS III, HARRY D

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/896,118	Applicant(s) HANAKAWA ET AL.	
	Examiner Harry D Wilkins, III	Art Unit 1742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-26 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14-18 is/are allowed.
- 6) ☒ Claim(s) 19-26 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. The objections to the specification and claims have been withdrawn in view of Applicant's amendment.
2. The rejection under 35 USC 112, 2nd paragraph has been withdrawn in view of Applicant's amendment.
3. All previous rejections under 35 USC 102 and 103^D have been withdrawn in view of response indicating the inadequacies of the secondary references, particularly Kurita, Futaki and Chadwick.
4. New grounds of rejection are presented herein not necessitated by Applicant's amendment; thus, this rejection is not final.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 19-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hook (US 4,046,601) in view of Applicant's admission of prior art.

Hook teaches a method for producing a formed member of a steel sheet by (see abstract, col. 1, lines 7-20, col. 3, lines 53-65, col. 6, lines 30-37, Table I and Table II)

(a) preparing a steel sheet material with a tensile strength of 317 MPa (b) which contains Ti, Al and Cb (Nb) (i.e.-nitriding elements), (c) forming by stamping or deep drawing (i.e.-plastic forming), (d) subsequently strengthening the steel sheet by nitriding

Art Unit: 1742

to achieve a final hardness of HRC 36 (about 342 HV) with (e) the full through thickness strengthened (hardened) such that the hardness is essentially equal across the thickness.

However, Hook does not teach that the formed member was for a vehicle body.

Applicant admits as prior art (see page 1, lines 9-20 and page 3, lines 6-12) that it was known to improve the performance of steel sheets for a vehicle body to treat the sheet by nitriding after press forming to ensure press formability.

Therefore, it would have been obvious to one of ordinary skill in the art to have utilized the method of Hook for a vehicle body because Applicant admits that there was a need for increased strength in the steel sheets while maintaining the formability of the sheet, both of which are provided for by the method of Hook.

Regarding claim 20, Hook does not teach the "tailored blank method" which, as admitted as prior art by Applicant (see page 5, line 5 to page 7, line 12) includes preparing a first blank material and a second blank material, joining the two blanks by welding and performing plastic forming to obtain a final formed member. The advantage of this method is (see page 5, lines 15-20) the possibility of obtaining a formed member having a part therein of which properties are different from other parts for a predetermined specification in accordance with the properties of the blank material, while generally improving yield of the sheet-like material. Therefore, it would have been obvious to one of ordinary skill in the art to have used the "tailored blank method" of the admitted prior art for making the part of a vehicle body using the steel sheet and method of Hook because of the ability to achieve predetermined properties

Art Unit: 1742

that vary across a workpiece. It would have been obvious to perform the nitriding after the plastic forming because Hook teaches (see col. 1, lines 11-16) that the nitriding occurs subsequent to the forming step.

Regarding claim 21, Hook does not teach that the formed member has a closed section shape and is reinforced by setting a foam material by adhesion to at least a region subjected to the nitriding treatment and causing the foam material to expand by heating. However, Applicant admits as prior art (see page 8, lines 12-17) that it was known to reinforce closed sections of parts for vehicle bodies by setting a foaming material inside the closed section. Regarding the limitation "causing the foam material to expand by heating the formed member", it would have been obvious to one with ordinary skill in the art to have heat treated the formed member including the foaming material in order to ensure expansion of the foaming material to fill all of the nooks and crannies of the closed section by thermal expansion.

Regarding claim 22, Hook does not teach the "hydroform" process which, as admitted as prior art by Applicant (see page 8, line 18 to page 10, line 8), includes forming a perform having a shape which is relatively approximate to the final shape of the formed member by forming a metal member having a closed section, setting the perform in a predetermined mold and forming the perform to the final shape corresponding to a shape of the mold by supplying the closed section space thereof with a pressurized fluid to apply an internal pressure inside the closed section of the perform. However, Applicant's admission teaches (see page 9, lines 4-9) that the process provides an easy method of forming a relatively complex shape without

Art Unit: 1742

assembling a plurality of members and joining them together, thus reducing production costs. Therefore, it would have been obvious to one of ordinary skill in the art to have used the "hydroform" process of the admitted prior art as the plastic forming step of Hook because the "hydroform" process provides an easy process for making complex shapes while reducing production costs.

Regarding claims 23-26, Hook teaches, as above, a formed member made of a steel sheet having an average hardness of HRC 36 (about 342 HV) that is made by plastically forming a sheet into a predetermined shape and performing nitriding after the plastic forming wherein the steel sheet contains Ti, Nb and Al and the steel sheet is through hardened (i.e.-the hardness is approximately equal across the entire thickness). See discussion above regarding claims 20-22 for each of claims 24-26. It would have been obvious to have used the conventional plastic forming methods of the prior art for the plastic forming step of Hook because of the various advantages discussed above for each method.

Response to Arguments

7. Applicant's arguments with respect to claims 19-26 have been considered but are moot in view of the new ground(s) of rejection. However, the Examiner would prefer to respond to Applicant's argument from the 1st paragraph of page 10 regarding Hook. Hook expressly teaches (see col. 1, lines 11-16, particularly the word "subsequently" on line 14) that the nitriding occurs after forming.

Allowable Subject Matter

8. Claims 14-18 are allowed.

Art Unit: 1742

9. The following is an examiner's statement of reasons for allowance: Hook does not teach, and the prior art does not provide motivation to treat only desired portions of the formed member to provide the increased strength/hardness, such that when the formed member deforms by bending, the formed member deforms at the boundary between the treated and untreated regions.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D Wilkins, III whose telephone number is 703-305-9927. The examiner can normally be reached on M-Th 6:00am-4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy V King can be reached on 703-308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Application/Control Number: 09/896,118

Page 7

Art Unit: 1742

Harry D Wilkins, III
Examiner
Art Unit 1742

hdw
March 11, 2003


ROY KING
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700